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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,587	11/30/2000	Hans Peter Rath	49091	5855

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WASHINGTON, DC 20036

EXAMINER

LU, C CAIXIA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 08/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/701,587

Applicant(s)

RATH, HANS PETER

Examiner

Caixia Lu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination

1. The request for continued examination (RCE) under 37 C.F.R. § 1.114 of current application is acceptable. An action on the RCE follows.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a catalyst composition comprising boron trifluoride, a primary alcohol, and an ether wherein the ether contains no tertiary alkyl group(s) but must contain at least one secondary alkyl group, does not reasonably provide enablement for the catalyst composition of the instant claim wherein one of the alkyl group of the ether must be methyl or ethyl and the other alkyl of the ether is a primary alkyl. The ethers such as dimethyl ether or diethyl ether read on the instant, however, those ethers are not supported by applicant's disclosure. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Claim Rejections - 35 USC § 103

4. Claims 1-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rath (US 5,408,018) for the same rationale as set forth in the previous office action, Paper No. 8.

Response to Arguments

5. Applicant's arguments filed May 14, 2003 have been fully considered but they are not persuasive.

Applicant argues that Rath Example 8 discloses a process utilizing a di-n-butyl ether resulting isobutene conversion of 76% with terminal double bonds of 80 mol%, while the Examples 1-6 of the instant application disclose a improved terminal double bond content of 91.7 to 97mol%. Reference is taken in its entirety, isolated teaching should not be used to against its entirety. For example, the polyisobutene of Rath's Example 7 contains 95 mol % of terminal double which is in the high end of the improved terminal double bond content of 91.7 to 97mol% of the instant application. It would have been obvious for a skilled artisan to improve the terminal double bond content by use any ether which reads on the preferred C₆-C₁₀-dialkyl ethers as disclosed in col. 7, line 62 unless there is showing of criticality and unexpected results.

Applicant's Declaration filed on January 16, 2003 has been considered. However, the comparative experiment is not based upon the embodiment of the closest prior art cited by the examiner, therefore, it not probative of unexpected results. MPEP 716. On the contrary, Rath's Examples 6 and 7 cited by the examiner disclose polymers with terminal double contents of 92 and 95 mol% respectively which are in the same range as that of the instant improved application.

Furthermore, the instant claims do not require the ether be a secondary ether, a ether with a secondary carbon (-CH(R)₂) attached to the ether oxygen. The ether of the instant claims broadly read on an ether containing a secondary alkyl such as diisobutyl

Art Unit: 1713


ether, $(\text{CH}_3)_2\text{CH}-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)_2$. Therefore, even if there is showing of criticality, the scope of showing is still not commensurate with the scope of the claims.

View in Specification as whole, the examiner believes that applicant's invention is about a catalyst composition comprising boron trifluoride, a primary alcohol, and an ether wherein the ether is a secondary ether.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (703) 306-3434. The examiner can normally be reached on 9:00 a.m. to 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1193.


Caixia Lu, Ph. D.
Primary Examiner
Art Unit 1713

CL
July 31, 2003